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09/672,131	09/27/2000	Gary S. Kitten	M-8847 US	7081

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EXAMINER	
LEE, CHRISTOPHER E	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/672,131	KITTEN ET AL.
	Examiner Christopher E. Lee	Art Unit 2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-16 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. ____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). ____ .
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3. 6) Other:

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the Preliminary Amendment filed on 22nd of October, 2002. No claims has been amended; no claims has been canceled; and no claims has been newly added. Currently, claims 1-16 are pending in this application.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In the claims 4 and 11, those claims recite the limitation “a direct-current blocking cap, wherein the device is coupled between the direct-current blocking cap and at least one second audio input/output connector”, respectively. However, the limitation is not disclosed in the application disclosure. The disclosure states a direct-current blocking cap, wherein a device (viz., disabling device) is coupled between the direct-current blocking cap and a primary audio I/O coupling (See Application, page 7, line 19 through page 8, line 3 and secondary audio I/O coupling 255, DC blocking cap 227, disabling device 210, and primary audio I/O coupling 250 in Fig. 2 and Fig. 3).

Claim Objections

4. Claim 8 is objected to because of the following informalities: In the claim 8, it recites the subject matters “a first audio device input/output connector” and “at least one second audio device input/output connector”. However, the dependent claims 9-15 are using a different term for designating the same subject matters, such that the term “the first audio input/output connector” for the subject matter “a first audio device input/output connector” and the term “at least one second audio input/output connector” for

the subject matter "at least one second audio device input/output connector". Thus, the Examiner assumes that the recited subject matters "a first audio device input/output connector" and "at least one second audio device input/output connector" in the claim 8 could be considered as "a first audio input/output connector" and "at least one second audio input/output connector" for the purpose of claim rejections based on a prior art. Appropriate correction is required.

5. Claim 11 is objected to because of the following informalities: the Examiner could not interpret the limitation "wherein the device is coupled between the direct-current blocking cap and at least one second audio input/output connector" in lines 2-3. Therefore, the Examiner assumes the limitation as -- wherein the device is coupled between the direct-current blocking cap and at least one second audio input/output connector--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 8 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 8 recites the subject matter "the circuit" in lines 8-9. There is insufficient antecedent basis for this subject matter in the claim. Therefore, the subject matter "the circuit" could be considered as --a circuit-- since it is not clearly defined in the claims.

The claim 16 recites the limitation "the coupling of an audio input/output device to a first audio input/output connector" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. Therefore, the limitation "the coupling of an audio input/output device to a first audio input/output connector" could be considered as --a coupling of an audio input/output device to a first audio input/output connector-- since it is not clearly defined in the claims.

The claim 16 recites the subject matter “the audio controller” in lines 6-7. There is insufficient antecedent basis for this subject matter in the claim. Therefore, the subject matter “the audio controller” could be considered as --an audio controller-- since it is not clearly defined in the claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 7 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. [US 5,675,641 A; hereinafter Watanabe].

Referring to claim 1, Watanabe discloses an apparatus (i.e., circuit 200 of Fig. 2) comprising: a first audio (i.e., speaker 221 of Fig. 2) input/output connector (i.e., connection part between speaker and the amplified signal line); at least one second audio input/output connector (i.e., earphone jack 240 of Fig. 2); an audio controller (i.e., controller 250 of Fig. 2); a circuit (i.e., amplifier 222 of Fig. 2) coupling said first audio input/output connector to said audio controller (See speaker circuit 220 in Fig. 2); at least one circuit (i.e., earphone detector 228 of Fig. 2) coupling at least one second audio input/output connector (i.e., earphone jack 240 of Fig. 2) to said audio controller (See speaker circuit 220 in Fig. 2); and a device (i.e., decoupling switch 227 of Fig. 2) electrically decoupling said first audio input/output connector from said circuit coupling said first audio input/output connector to said audio controller when an audio input/output device (i.e., earphone) is coupled to at least one second input/output connector (i.e., earphone jack 240 of Fig. 2; See col. 3, lines 4-43).

Referring to claim 5, Watanabe teaches said device comprises a mechanical switch (i.e., decoupling switch 227 of Fig. 2).

Referring to claim 7, Watanabe teaches said second audio input/output connector comprises a jack (i.e., earphone jack 240 of Fig. 2).

Referring to claim 16, Watanabe discloses a method for disabling a computer system audio device input/output connector (See col. 3, lines 8-16; i.e., wherein in fact decoupling the amplifier from the amplifier implies disabling a computer system audio device (i.e., speaker) input/output connector (i.e., connection part between speaker and the amplified signal line), said method comprising: detecting (See col. 3, lines 23-24) a coupling of an audio input/output device (i.e., earphone) to a first audio input/output connector (i.e., earphone jack 240 of Fig. 2; See col. 3, lines 4-43); and uncoupling (See col. 3, lines 10-12) at least one second audio (i.e., speaker 221 of Fig. 2) input/output connector (i.e., connection part between speaker and the amplified signal line) from a circuit (i.e., amplifier 222 of Fig. 2) coupling at least one second audio input/output connector to an audio controller (See controller 250 and speaker circuit 220 in Fig. 2) when said coupling of an audio input/output device (i.e., earphone) to said first audio input/output connector (i.e., earphone jack 240 of Fig. 2) is detected (See col. 3, lines 4-43).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner

to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,675,641 A] in view of Fujii et al. [US 6,128,263 A; hereinafter Fujii].

Referring to claim 2, Watanabe discloses all the limitations of the claim 2 except that does not teach said device comprises a transistor.

Fujii discloses a computer motherboard 100 (Fig. 7), wherein a device (i.e., noise removal mechanism; See col. 16, lines 60-62) electrically decoupling (See col. 17, lines 6-9) a first audio input/output connector (i.e., line input on interface connector 260 in Fig. 7) from a circuit (i.e., receiver 402 of Fig. 7) coupling said first audio input/output connector to an audio controller (i.e., audio controller 37 of Fig. 1) when an audio input/output device (i.e., CPU 220 of CD-ROM drive 200 of Fig. 7) is coupled to at least one second input/output connector (i.e., mute signal on interface connector 260 in Fig. 7) comprises a transistor (i.e., n-channel FET 401 of Fig. 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said device (i.e., noise removal mechanism), as disclosed by Fujii, for said device (i.e., decoupling switch), as disclosed by Watanabe, for the advantage of replacing the mechanical contact of said device, which produces an electro-mechanical noise, with the transistor switch (i.e., FET switch), which does not produce said noise. This advantage is well known to one of ordinary skill in the art of electronics circuit design at the time the invention was made. Therefore, the transistor switch (i.e., FET transistor) receives at its gate said second audio input/output detecting signal (i.e., mute signal) from said device (i.e., CPU) during said second audio input/output operation period (i.e., mute period), a high voltage is applied to the gate, and accordingly, the output of said first audio input/output signal (i.e., output driver 232 of Fig. 7; Fujii) goes to the ground level, thus said audio input/output signal to said first audio input/output connector (i.e., unwanted signal) is not output to said first audio input/output device

(i.e., speaker) when said second audio input/output device is coupled (i.e., earphone is coupled to an earphone jack). Refer to Fujii, col. 16, lines 13-20.

Referring to claim 3, Watanabe, as modified by Fujii, teaches said transistor (i.e., n-channel FET switch 401 of Fig. 7; Fujii) is a field effect transistor comprising a drain, a source, and a gate (See Fujii, col. 16, lines 60-67), wherein said drain is coupled to said first audio input/output connector (i.e., line input on interface connector 260 is coupled to the drain of n-channel FET switch 401 in Fig. 7; Fujii), said source is coupled to ground (See Fujii, col. 16, lines 62-64), and said gate is coupled to at least one second audio input/output connector (See Fujii, col. 16, lines 64-67) such that current flows into said gate when an audio input/output device (i.e., earphone; Watanabe) is coupled to a second audio input/output connector (i.e., earphone jack 240 of Fig. 2; Watanabe) to which said gate is coupled (i.e., a mute signal input by the drive unit is received at the gate of the FET switch anticipates said second audio input/output device detection (i.e., earphone detection signal) input by a detecting device (i.e., earphone detector) is received at the gate of said FET switch).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,675,641 A] in view of Mackenzie [US 5,815,352 A].

Referring to claim 4, Watanabe discloses all the limitations of the claim 4 except that a direct-current blocking cap, wherein said device is coupled between said direct-current blocking cap and at least one second audio input/output connector.

Mackenzie discloses a pulse generator 37 in an arc fault detector (Fig. 2), wherein said pulse generator comprises a direct-current blocking cap (i.e., dc blocking capacitor 67 of Fig. 2), wherein a device (i.e., low pass filter 49 of Fig. 2) is coupled between said direct-current blocking cap (i.e., dc blocking capacitor) and an audio input/output connector (i.e., lead 25 of Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct-current blocking cap, as disclosed by Mackenzie, in said apparatus, as

disclosed by Watanabe, so as that said direct-current blocking cap is inserted between said second audio input/output connector and said device for the advantage of removing DC bias from an audio signal (i.e., pulse signal) of said second audio input/output connector (See Mackenzie, col. 4, lines 41-47).

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,675,641 A] in view of Fang et al. [US 6,050,854 A; hereinafter Fang].

Referring to claim 6, Watanabe discloses all the limitations of the claim 6 except that does not teach said first audio input/output connector comprises a jack.

Fang discloses an audio connector (i.e., jack; See Fang, col. 1, lines 10-13) includes a shielding for preventing noise (See col. 1, lines 6-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said audio connector, as disclosed by Fang, in said apparatus for coupling between an audio device (e.g., speaker) to a circuit (e.g., amplifier), as disclosed by Watanabe, so as to replace the speaker conveniently in case of being failed, and for the advantage of effectively suppressing EMI from affecting the function of audio, as well (See Fang, col. 1, lines 41-43).

15. Claims 8, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keene [US 5,553,220 A] in view of Watanabe [US 5,675,641 A].

Referring to claim 8, Keene discloses a computer system (i.e., computer-based multimedia system in Fig. 2), comprising: a processor (i.e., host CPU 111 of Fig. 2); a memory (i.e., audio data buffer 215 of Fig. 2) coupled to said processor (See Fig. 5; i.e., said audio data buffer is coupled to said host CPU); an audio controller (i.e., CODEC audio controller 201 of Fig. 2) coupled to said processor (See Fig. 5; i.e., said audio controller is coupled to said host CPU).

Keene does not expressly disclose a first audio input/output connector coupled to said audio controller; at least one second audio input/output connector coupled to said audio controller; and a device electrically decoupling said first audio input/output connector from a circuit coupling said first audio input/output

connector to said audio controller when an audio input/output device is coupled to at least one second input/output connector.

Watanabe teaches a dual mode speaker telephone (Fig. 2), wherein an apparatus (i.e., speaker circuit 220 of Fig. 2) comprising: a first audio (i.e., speaker 221 of Fig. 2) input/output connector (i.e., connection part between speaker and the amplified signal line) coupled to an audio controller (See controller 250 and speaker circuit 220 in Fig. 2); at least one second audio input/output connector (i.e., earphone jack 240 of Fig. 2) coupled to said audio controller (See speaker circuit 220 in Fig. 2); and a device (i.e., decoupling switch 227 of Fig. 2) electrically decoupling said first audio input/output connector from a circuit coupling said first audio input/output connector to said audio controller when an audio input/output device (i.e., earphone) is coupled to at least one second input/output connector (i.e., earphone jack 240 of Fig. 2; See col. 3, lines 4-43).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said speaker circuit, as disclosed by Watanabe, in said apparatus, as disclosed by Keene, for the advantage of operating said audio device (i.e., microphone and speaker/headphone) capable of switching between half-duplex and full-duplex modes of operation (See Watanabe, col. 1, lines 52-62).

Referring to claim 12, Watanabe teaches said device is a mechanical switch (i.e., decoupling switch 227 of Fig. 2).

Referring to claim 15, Watanabe teaches said second audio input/output connector comprises a jack (i.e., earphone jack 240 of Fig. 2).

16. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keene [US 5,553,220 A] in view of Watanabe [US 5,675,641 A] as applied to claims 8, 12 and 15 above, and further in view of Fujii [US 6,128,263 A].

Referring to claim 9, Keene, as modified by Watanabe, discloses all the limitations of the claim 9 except that does not teach said device comprises a transistor.

Fujii discloses a computer motherboard 100 (Fig. 7), wherein a device (i.e., noise removal mechanism; See col. 16, lines 60-62) electrically decoupling (See col. 17, lines 6-9) a first audio input/output connector (i.e., line input on interface connector 260 in Fig. 7) from a circuit (i.e., receiver 402 of Fig. 7) coupling said first audio input/output connector to an audio controller (i.e., audio controller 37 of Fig. 1) when an audio input/output device (i.e., CPU 220 of CD-ROM drive 200 of Fig. 7) is coupled to at least one second input/output connector (i.e., mute signal on interface connector 260 in Fig. 7) comprises a transistor (i.e., n-channel FET 401 of Fig. 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said device (i.e., noise removal mechanism), as disclosed by Fujii, for said device (i.e., decoupling switch), as disclosed by Keene, as modified by Watanabe, for the advantage of replacing the mechanical contact of said device, which produces an electro-mechanical noise, with the transistor switch (i.e., FET switch), which does not produce said noise. This advantage is well known to one of ordinary skill in the art of electronics circuit design at the time the invention was made. Therefore, the transistor switch (i.e., FET transistor) receives at its gate said second audio input/output detecting signal (i.e., mute signal) from said device (i.e., CPU) during said second audio input/output operation period (i.e., mute period), a high voltage is applied to the gate, and accordingly, the output of said first audio input/output signal (i.e., output driver 232 of Fig. 7; Fujii) goes to the ground level, thus said audio input/output signal to said first audio input/output connector (i.e., unwanted signal) is not output to said first audio input/output device (i.e., speaker) when said second audio input/output device is coupled (i.e., earphone is coupled to an earphone jack). Refer to Fujii, col. 16, lines 13-20.

Referring to claim 10, Keene, as modified by Watanabe and Fujii, teaches said transistor (i.e., n-channel FET switch 401 of Fig. 7; Fujii) is a field effect transistor comprising a drain, a source, and a gate

(See Fujii, col. 16, lines 60-67), wherein said drain is coupled to said first audio input/output connector (i.e., line input on interface connector 260 is coupled to the drain of n-channel FET switch 401 in Fig. 7; Fujii), said source is coupled to ground (See Fujii, col. 16, lines 62-64), and said gate is coupled to at least one second audio input/output connector (See Fujii, col. 16, lines 64-67) such that current flows into said gate when an audio input/output device (i.e., earphone; Watanabe) is coupled to a second audio input/output connector (i.e., earphone jack 240 of Fig. 2; Watanabe) to which said gate is coupled (i.e., a mute signal input by the drive unit is received at the gate of the FET switch anticipates said second audio input/output device detection (i.e., earphone detection signal) input by a detecting device (i.e., earphone detector) is received at the gate of said FET switch).

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keene [US 5,553,220 A] in view of Watanabe [US 5,675,641 A] as applied to claims 8, 12 and 15 above, and further in view of Mackenzie [US 5,815,352 A].

Referring to claim 11, Keene, as modified by Watanabe, discloses all the limitations of the claim 11 except that a direct-current blocking cap, wherein said device is coupled between said direct-current blocking cap and at least one second audio input/output connector.

Mackenzie discloses a pulse generator 37 in an arc fault detector (Fig. 2), wherein said pulse generator comprises a direct-current blocking cap (i.e., dc blocking capacitor 67 of Fig. 2), wherein a device (i.e., low pass filter 49 of Fig. 2) is coupled between said direct-current blocking cap (i.e., dc blocking capacitor) and an audio input/output connector (i.e., lead 25 of Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct-current blocking cap, as disclosed by Mackenzie, in said apparatus, as disclosed by Keene, as modified by Watanabe, so as that said direct-current blocking cap is inserted between said second audio input/output connector and said device for the advantage of removing DC bias

from an audio signal (i.e., pulse signal) of said second audio input/output connector (See Mackenzie, col. 4, lines 41-47).

18. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keene [US 5,553,220 A] in view of Watanabe [US 5,675,641 A] as applied to claims 8, 12 and 15 above, and further in view of Fang [US 6,050,854 A].

Referring to claim 13, Keene, as modified by Watanabe, discloses all the limitations of the claim 13 except that does not teach said first audio input/output connector is a jack.

Fang discloses an audio connector (i.e., jack; See Fang, col. 1, lines 10-13) includes a shielding for preventing noise (See col. 1, lines 6-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said audio connector, as disclosed by Fang, in said apparatus for coupling between an audio device (e.g., speaker) to a circuit (e.g., amplifier), as disclosed by Keene, as modified by Watanabe, so as to replace the speaker conveniently in case of being failed, and for the advantage of effectively suppressing EMI from affecting the function of audio, as well (See Fang, col. 1, lines 41-43).

Referring to claim 14, Watanabe teaches said second audio input/output connector comprises a jack (i.e., earphone jack 240 of Fig. 2).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tran et al. [US 6,359,987 B1] disclose multimedia speaker detection circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 703-305-5950. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone numbers for the organization where this

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Non-Final Action

application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Christopher E. Lee
Examiner
Art Unit 2189

CEL/ *cel*
April 2, 2003



MARK H. BINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100